

In re Application of Ragsdale et al.
Application No. 10/615,283

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An additive suitable for addition to a polyol reactant used in the manufacture of a polymer foam, the additive comprising:
- (a) a benzotriazole, the benzotriazole being present in the additive in an amount of about 0.5 to about 6.0 parts per hundred parts of the polyol (php),[[:]]
 - (b) a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure, the lactone-based antioxidant being present in the additive in an amount of about 0.05 to about 1.0 php, and
 - (c) a ~~compound~~ third component selected from the group consisting of: secondary phenyl amines and hindered phenols;
 - (i) about 0.05 to about 1.0 php of a secondary phenylamine,
 - (ii) about 0.05 to about 2.0 php of a hindered phenol, and
 - (iii) a combination of about 0.05 to about 1.0 php of a secondary phenylamine and about 0.05 to about 2.0 php of a hindered phenol.wherein said additive is effective for reducing undesirable yellowing when applied in a polyurethane foam.
2. (Currently Amended) The additive of Claim 1 wherein said ~~compound~~ (e) third component ~~comprises~~ is a secondary phenyl amine phenylamine.
- 3-16. (Canceled)
17. (Currently Amended) The additive of Claim 1 wherein said ~~compound~~ (e) third component ~~comprises~~ is a hindered phenol.
18. (New) The additive of claim 1, wherein said third component is a combination of a secondary phenylamine and a hindered phenol.
19. (New) The additive of claim 1, wherein said additive comprises:
- (a) about 0.8 to about 2.0 php of a benzotriazole,
 - (b) about 0.1 to about 0.7 php of a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure,
 - (c) about 0.1 to about 0.5 php of a secondary phenylamine, and

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(d) about 0.1 to about 1.5 php of a hindered phenol.

20. (New) The additive of claim 19, wherein said additive comprises:

(a) about 0.8 to about 2.0 php of a benzotriazole,

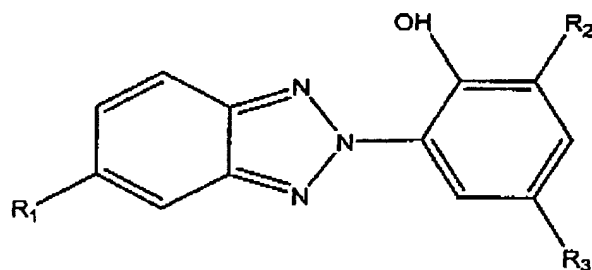
(b) about 0.15 to about 0.3 php of a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure,

(c) about 0.1 to about 0.5 php of a secondary phenylamine, and

(d) about 0.25 to about 0.65 php of a hindered phenol.

21. (New) The additive of claim 1 wherein said benzotriazole conforms to the structure of Formula (I)

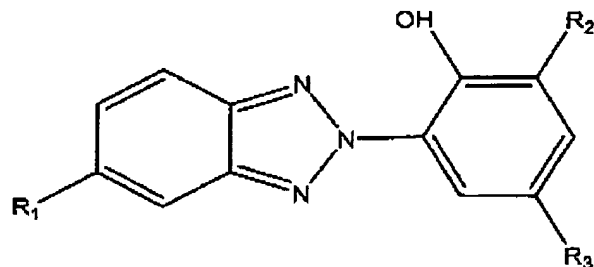
(I)



wherein R_1 , R_2 , and R_3 are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x , y , and z are from 0 to 30, and halogens.

22. (New) The additive of claim 19 wherein said benzotriazole conforms to the structure of Formula (I)

(I)

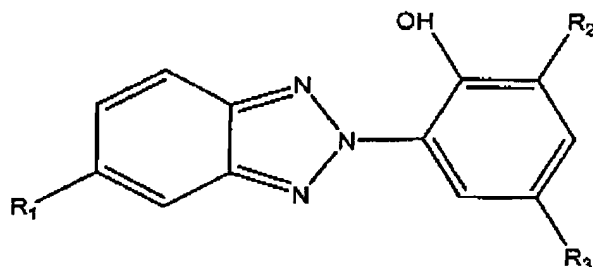


wherein R_1 , R_2 , and R_3 are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x , y , and z are from 0 to 30, and halogens.

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23. (New) The additive of claim 20 wherein said benzotriazole conforms to the structure of Formula (I)

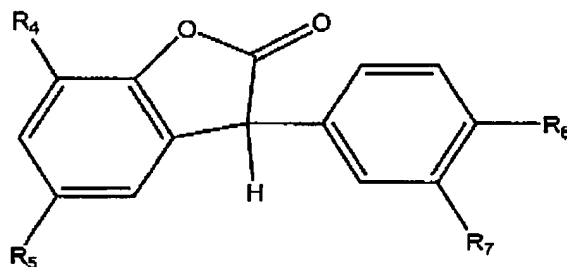
(1)



wherein R₁, R₂, and R₃ are individually selected from the group consisting of hydrogen, groups conforming to the formula C_xH_yO_z, where x, y, and z are from 0 to 30, and halogens.

24. (New) The additive of claim 1 wherein said lactone-based antioxidant conforms to the structure of Formula (II)

(11)

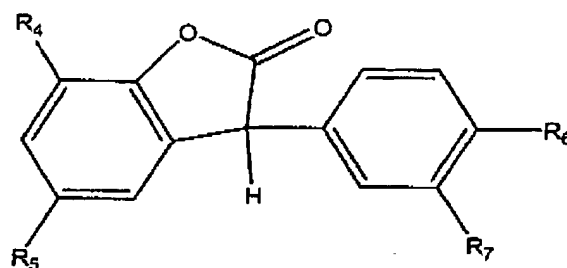


wherein R₄, R₅, R₆, and R₇ are individually selected from the group consisting of hydrogen and C₁₋₃₀ alkyl groups.

25. (New) The additive of claim 19 wherein said lactone-based antioxidant conforms to the structure of Formula (II)

(11)

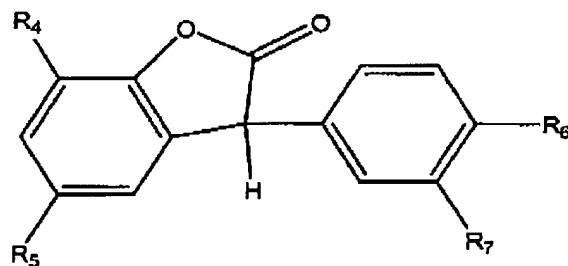
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wherein R_4 , R_5 , R_6 , and R_7 are individually selected from the group consisting of hydrogen and C_{1-30} alkyl groups.

26. (New) The additive of claim 20 wherein said lactone-based antioxidant conforms to the structure of Formula (II)

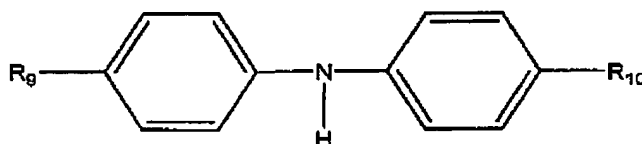
(II)



wherein R_4 , R_5 , R_6 , and R_7 are individually selected from the group consisting of hydrogen and C_{1-30} alkyl groups.

27. (New) The additive of claim 1 wherein the secondary phenylamine conforms to the structure of Formula (IV)

(IV)

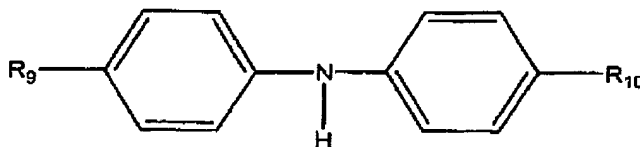


wherein R_9 and R_{10} are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x , y , and z are from 0 to 30, and halogens.

28. (New) The additive of claim 19 wherein the secondary phenylamine conforms to the structure of Formula (IV)

(IV)

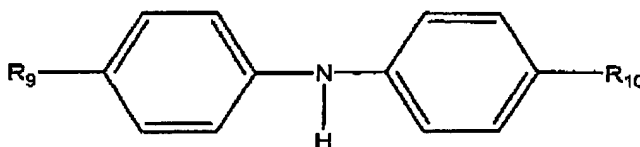
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wherein R_9 and R_{10} are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x , y , and z are from 0 to 30, and halogens.

29. (New) The additive of claim 20 wherein the secondary phenylamine conforms to the structure of Formula (IV)

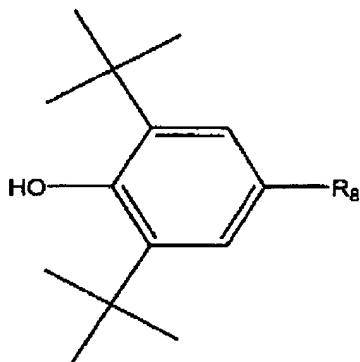
(IV)



wherein R_9 and R_{10} are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x , y , and z are from 0 to 30, and halogens.

30. (New) The additive of claim 1 wherein the hindered phenol conforms to the structure of Formula (III)

(III)

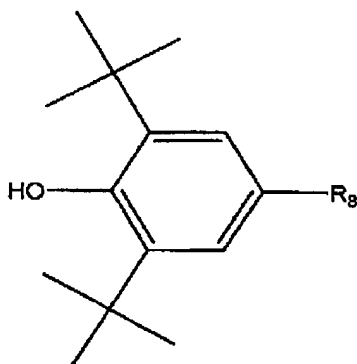


wherein R_8 is selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x , y , and z are from 0 to 30, and halogens.

31. (New) The additive of claim 19 wherein the hindered phenol conforms to the structure of Formula (III)

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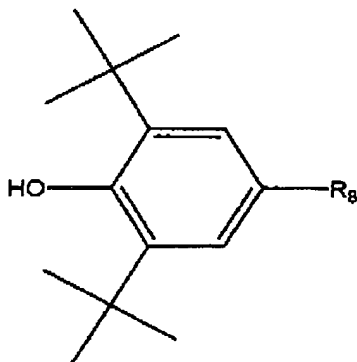
(III)



wherein R₈ is selected from the group consisting of hydrogen, groups conforming to the formula C_xH_yO_z, where x, y, and z are from 0 to 30, and halogens.

32. (New) The additive of claim 20 wherein the hindered phenol conforms to the structure of Formula (III)

(III)



wherein R₈ is selected from the group consisting of hydrogen, groups conforming to the formula C_xH_yO_z, where x, y, and z are from 0 to 30, and halogens.